CLAIMS AMENDMENT

2

1. (currently amended): A compound according to Formula I:

$$\begin{array}{c} X \\ \downarrow \\ Y \longrightarrow W (CR^1R^2)_n ArCR^3R^4N(R^5)(CR^6R^7)_n R^8 \\ \downarrow \\ z \end{array} (I)$$

wherein, W is a nitrogen atom and Y is void, or W is a carbon atom and Y=H;

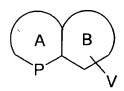
 R^1 to R^7 may be the same or different and are independently hydrogen or straight, branched or cyclic C_{1-6} alkyl;

R⁸ is an optionally substituted heterocyclic group or an optionally substituted aromatic group

Ar is an aromatic or heteroaromatic ring optionally substituted at single or multiple, nonlinking positions with electron-donating or withdrawing groups;

n and n' are independently, 0-2;

X is a group of the formula:



wherein, Ring A is an optionally substituted, saturated or unsaturated 5 or 6-membered ring, and P is an optionally substituted nitrogen atom and wherein any heteroatom in addition to P in ring A is N;

wherein Ring B is an optionally substituted 5 to 7-membered ring; wherein Ring A or Ring B is bound to group W from any position through group V; wherein V is a chemical bond or V is a (CH₂)_n, group (where n''= 1-2), or V is a C=O group; and

wherein Z is selected from the group consisting of: a hydrogen atom; an optionally substituted C_{1-6} alkyl group; an optionally substituted aromatic or heterocyclic group; an optionally substituted amino group; an optionally substituted C_{1-6} alkylamino or C_{3-7} cycloalkylamino group; and an optionally a substituted carbonyl group; or

the pharmaceutically acceptable acid addition salts thereof;

including wherein said compound may be in any stereoisomeric form and any or present as a mixture of stereoisomeric forms thereof;

wherein Ring B is selected from the group consisting of: benzene and a 5 to 7-membered cycloalkyl ring; and the optionally substituted forms thereof.

- 2. (previously presented): The compound of claim 1, wherein Ring A is selected from the group consisting of: pyridine; pyrimidine; pyrazine; pyridazine; triazine; piperidine; piperazine; imidazole; pyrazole; and triazole and the optionally substituted forms thereof.
 - 3. (canceled)
- 4. (previously presented): The compound of claim 1, wherein Ring B is selected from the group consisting of: cyclopentyl; cyclohexyl; cycloheptyl; cyclopentenyl; and cycloheptenyl and the optionally substituted forms thereof.
 - 5. (canceled)
- 6. (previously presented): The compound of claim 1, wherein Ring A and Ring B together are optionally substituted dihydroquinoline or tetrahydroquinoline.
- 7. (previously presented): The compound of claim 1, wherein Ring A and Ring B are independently optionally substituted with a substituent selected from the group consisting of: halogen; nitro; cyano; carboxylic acid; an optionally substituted alkyl, alkenyl or cycloalkyl group; an optionally substituted hydroxyl group; an optionally substituted thiol group; an optionally substituted amino or acyl group; an optionally substituted carboxylate, carboxamide or sulfonamide group; and an optionally substituted aromatic or heterocyclic group.

8-11. (canceled)

Application No.: 09/535,314 4 Docket No.: 391442003700

12. (previously presented): The compound of claim 1 wherein said optional substituent in Ring A or Ring B is independently an optionally substituted aralkyl or heterocycloalkyl, wherein said heterocycloalkyl is a 5 or 6 membered ring containing 1-4 heteroatoms.

13. (previously presented): The compound of claim 12, wherein said optionally substituted aralkyl or heterocycloalkyl is selected from the group consisting of: phenylC₁₋₄alkyl; phenylmethyl (benzyl); phenethyl; pyridinylmethyl; and pyridinylethyl.

14-50. (canceled)

51. (previously presented): The compound of claim 1, wherein Z is an optionally substituted C₁₋₆alkyl group, wherein said C₁₋₆alkyl group is substituted with one or more substituents selected from the group consisting of: halogen; nitro; cyano; carboxylic acid; an optionally substituted alkyl, alkenyl or cycloalkyl group; an optionally substituted hydroxyl group; an optionally substituted thiol group; an optionally substituted amino or acyl group; an optionally substituted carboxylate, carboxamide or sulfonamide group; and an optionally substituted aromatic or heterocyclic group.

52-54. (canceled)

- 55. (previously presented): The compound of claim 1, wherein Z is an optionally substituted aromatic or heterocyclic group or a C_{1-6} alkyl group optionally substituted with an optionally substituted aromatic or heterocyclic group.
- 56. (previously presented): The compound of claim 55, wherein said optionally substituted aromatic group is substituted with a substituent selected from the group consisting of: benzene; naphthalene; dihydronaphthalene; and tetrahydronaphthalene; and wherein said optionally substituted heterocyclic group is a 5 to 6-membered saturated, partially saturated, or aromatic heterocyclic ring containing 1 to 4 heteroatoms selected from nitrogen, oxygen and sulfur.

5

- 57. (original): The compound of claim 56, wherein said heterocyclic group is selected from the group consisting of: pyridine, quinoline, isoquinoline, imidazole, benzimidazole, azabenzimidazole, benzotriazole, furan, benzofuran, thiazole, benzothiazole, oxazole, benzoxazole, pyrrole, indole, indoline, indazole, pyrrolidine, pyrrolidone, pyrroline, piperidine, piperazine, tetrahydroquinoline, tetrahydroisoquinoline, pyrazole, thiophene, isoxazole, isothiazole, triazole, tetrazole, oxadiazole, thiadiazole, morpholine, thiamorpholine, pyrazolidine, imidazolidine, imidazoline, tetrahydropyran, dihydropyran, benzopyran, dioxane, dithiane, tetrahydrofuran, tetrahydrofuran, and dihydrothiophene.
- 58. (previously presented): The compound of claim 57, wherein said heterocyclic group contains nitrogen or sulfur heteroatoms; and wherein said nitrogen or sulfur heteroatoms are optionally in the form of oxides.

59-97. (canceled)

- 98. (previously presented): A compound selected from the group consisting of:
- (a) AMD8862, N-(2-pyridinylmethyl)-N'-[2-[(1*H*-imidazol-4-ylmethyl)amino]ethyl]-N'-(5,6,7,8-tetrahydro-8-quinolinyl)-1,4-benzene dimethanamine;
- (b) AMD8887, N-(2-pyridinylmethyl)-N'-[2-[(1*H*-imidazol-2-ylmethyl)amino]ethyl]-N'-(5,6,7,8-tetrahydro-8-quinolinyl)-1,4-benzenedimethanamine;
- (c) AMD8816, N-(2-pyridinylmethyl)-N'-[2-(phenylureido)ethyl]-N'-(5,6,7,8-tetrahydro-8-quinolinyl)-1,4-benzenedimethanamine;
- (d) AMD8737, N-(2-pyridinylmethyl)-N'-[[N"-(n-butyl)carboxamido]methyl] -N'-(5,6,7,8-tetrahydro-8-quinolinyl)-1,4-benzenedimethanamine;
- (e) AMD8739, N-(2-pyridinylmethyl)-N'-(carboxamidomethyl)-N'-(5,6,7,8-tetrahydro-8-quinolinyl)-1,4-benzenedimethanamine;
- (f) AMD8752, N-(2-pyridinylmethyl)-N'-[(N''-phenyl)carboxamidomethyl]-N'-(5,6,7,8-tetrahydro-8-quinolinyl)-1,4-benzenedimethanamine;
- (g) AMD8765, N-(2-pyridinylmethyl)-N'-(carboxymethyl)-N'-(5,6,7,8-tetrahydro-8-quinolinyl)-1,4-benzenedimethanamine;
- (h) AMD8715, N-(2-pyridinylmethyl)-N'-(phenylmethyl)-N'-(5,6,7,8-tetrahydro-8-quinolinyl)-1,4-benzenedimethanamine:

(i) AMD8907, N-(2-pyridinylmethyl)-N'-(1*H*-benzimidazol-2-ylmethyl)-N'-(5,6,7,8-tetrahydro-8-quinolinyl)-1,4-benzenedimethanamine;

6

- (j) AMD8927, N-(2-pyridinylmethyl)-N'-(5,6-dimethyl-1*H*-benzimidazol-2-ylmethyl)-N'-(5,6,7,8-tetrahydro-8-quinolinyl)-1,4-benzenedimethanamine;
- (k) AMD8926, N-(2-pyridinylmethyl)-N'-(5-nitro-1*H*-benzimidazol-2-ylmethyl)-N'-(5,6,7,8-tetrahydro-8-quinolinyl)-1,4-benzenedimethanamine;
- (l) AMD8929, N-(2-pyridinylmethyl)-N'-[(1*H*)-5-azabenzimidazol-2-ylmethyl]-N'-(5,6,7,8-tetrahydro-8-quinolinyl)-1,4-benzenedimethanamine;
- (m) AMD8931, N-(2-pyridinylmethyl)-N-(4-phenyl-1*H*-imidazol-2-ylmethyl)-N'-(5,6,7,8-tetrahydro-8-quinolinyl)-1,4-benzenedimethanamine;
- (n) AMD8783, N-(2-pyridinylmethyl)-N'-[2-(2-pyridinyl)ethyl]-N'-(5,6,7,8-tetrahydro-8-quinolinyl)-1,4-benzenedimethanamine;
- (o) AMD8764, N-(2-pyridinylmethyl)-N'-(2-benzoxazolyl)-N'-(5,6,7,8-tetrahydro-8-quinolinyl)-1,4-benzenedimethanamine;
- (p) AMD8780, N-(2-pyridinylmethyl)-N'-(*trans*-2-aminocyclohexyl)-N'-(5,6,7,8-tetrahydro-8-quinolinyl)-1,4-benzenedimethanamine;
- (q) AMD8818, N-(2-pyridinylmethyl)-N'-(2-phenylethyl)-N'-(5,6,7,8-tetrahydro-8-quinolinyl)-1,4-benzenedimethanamine;
- (r) AMD8829, N-(2-pyridinylmethyl)-N'-(3-phenylpropyl)-N'-(5,6,7,8-tetrahydro-8-quinolinyl)-1,4-benzenedimethanamine;
- (s) AMD8839, N-(2-pyridinylmethyl)-N'-(*trans*-2-aminocyclopentyl)-N'-(5,6,7,8-tetrahydro-8-quinolinyl)-1,4-benzenedimethanamine;
- (t) AMD8726, N-[[4-[[(2-pyridinylmethyl)amino]methyl]phenyl]methyl]-N-(5,6,7,8-tetrahydro-8-quinolinyl)-glycinamide;
- (u) AMD8738, N-[[4-[[(2-pyridinylmethyl)amino]methyl]phenyl]methyl]-N-(5,6,7,8-tetrahydro-8-quinolinyl)-(L)-alaninamide;
- (v) AMD8749, N-[[4-[[(2-pyridinylmethyl)amino]methyl]phenyl]methyl]-N-(5,6,7,8-tetrahydro-8-quinolinyl)-(L)-aspartamide;
- (w) AMD8750, N-[[4-[[(2-pyridinylmethyl)amino]methyl]phenyl]methyl]-N-(5,6,7,8-tetrahydro-8-quinolinyl)-pyrazinamide;
- (x) AMD8740, N-[[4-[[(2-pyridinylmethyl)amino]methyl]phenyl]methyl]-N-(5,6,7,8-tetrahydro-8-quinolinyl)-(L)-prolinamide;
- (y) AMD8741, N-[[4-[[(2-pyridinylmethyl)amino]methyl]phenyl]methyl]-N-(5,6,7,8-tetrahydro-8-quinolinyl)-(L)-lysinamide;

Application No.: 09/535,314 ·

7

Docket No.: 391442003700

- (z) AMD8724, N-[[4-[[(2-pyridinylmethyl)amino]methyl]phenyl]methyl]-N-(5,6,7,8-tetrahydro-8-quinolinyl)-benzamide;
- (aa) AMD8725, N-[[4-[[(2-pyridinylmethyl)amino]methyl]phenyl]methyl]-N-(5,6,7,8-tetrahydro-8-quinolinyl)-picolinamide;
- (bb) AMD8713, N'-Benzyl-N-[[4-[[(2-pyridinylmethyl) amino]methyl]phenyl]methyl]-N-(5,6,7,8-tetrahydro-8-quinolinyl)-urea;
- (cc) AMD8712, N'-phenyl-N-[[4-[[(2-pyridinylmethyl) amino]methyl]phenyl]methyl]-N-(5,6,7,8-tetrahydro-8-quinolinyl)-urea;
- (dd) AMD8716, N-(6,7,8,9-tetrahydro-5*H*-cyclohepta[b]pyridin-9-yl)-4-[[(2-pyridinylmethyl)amino]methyl]benzamide;
- (ee) AMD8717, N-(5,6,7,8-tetrahydro-8-quinolinyl)-4-[[(2-pyridinylmethyl)amino]methyl]benzamide;
- (ff) AMD8634, N,N'-bis(2-pyridinylmethyl)-N'-(5,6,7,8-tetrahydro-8-quinolinyl)-1,4-benzenedimethanamine;
- (gg) AMD8774, N,N'-bis(2-pyridinylmethyl)-N'-(6,7,8,9-tetrahydro-5*H*-cyclohepta[b]pyridin-9-yl)-1,4-benzenedimethanamine;
- (hh) AMD8775, N,N'-bis(2-pyridinylmethyl)-N'-(6,7-dihydro-5*H*-cyclopenta[b]pyridin-7-yl)-1,4-benzenedimethanamine;
- (ii) AMD8819, N,N'-bis(2-pyridinylmethyl)-N'-(1,2,3,4-tetrahydro-1-naphthalenyl)-1,4-benzenedimethanamine;
- (jj) AMD8768, N,N'-bis(2-pyridinylmethyl)-N'-[(5,6,7,8-tetrahydro-8-quinolinyl)methyl]-1,4-benzenedimethanamine;
- (kk) AMD8767, N,N'-bis(2-pyridinylmethyl)-N'[(6,7-dihydro-5*H*-cyclopenta[b]pyridin-7-yl)methyl]-1,4-benzenedimethanamine;
- (II) AMD8838, N-(2-pyridinylmethyl)-N-(2-methoxyethyl)-N'-(5,6,7,8-tetrahydro-8-quinolinyl)-1,4-benzenedimethanamine;
- (mm) AMD8871, N-(2-pyridinylmethyl)-N-[2-(4-methoxyphenyl)ethyl]-N'-(5,6,7,8-tetrahydro-8-quinolinyl)-1,4-benzenedimethanamine;
- (nn) AMD8844, N,N'-bis(2-pyridinylmethyl)-1,4-(5,6,7,8-tetrahydro-8-quinolinyl)benzenedimethanamine;
- (oo) AMD7129, N-[(2,3-dimethoxyphenyl)methyl]-N'-(2-pyridinylmethyl)-N-(5,6,7,8-tetrahydro-8-quinolinyl)-1,4-benzenedimethanamine;
- (pp) AMD7130, N,N'-bis(2-pyridinylmethyl)-N-[1-(N"-phenyl-N"-methylureido)-4-piperidinyl]-1,3-benzenedimethanamine;

Docket No.: 391442003700

- (qq) AMD7131, N,N'-bis(2-pyridinylmethyl)-N-[N"-p-toluenesulfonylphenylalanyl)-4-piperidinyl]-1,3-benzenedimethanamine;
- (rr) AMD7136, N,N'-bis(2-pyridinylmethyl)-N-[1-[3-(2-chlorophenyl)-5-methyl-isoxazol-4-oyl]-4-piperidinyl]-1,3-benzenedimethanamine;
- (ss) AMD7138, N-[(2-hydroxyphenyl)methyl]-N'-(2-pyridinylmethyl)-N-(6,7,8,9-tetrahydro-5H-cyclohepta[b]pyridin-9-yl)-1,4-benzenedimethanamine;
- (tt) AMD7140, N-[(4-cyanophenyl)methyl]-N'-(2-pyridinylmethyl)-N-(6,7,8,9-tetrahydro-5H-cyclohepta[b]pyridin-9-yl)-1,4-benzenedimethanamine;
- (uu) AMD7141, N-[(4-cyanophenyl)methyl]-N'-(2-pyridinylmethyl)-N-(5,6,7,8-tetrahydro-8-quinolinyl)-1,4-benzenedimethanamine;
- (vv) AMD7142, N-[(4-acetamidophenyl)methyl]-N'-(2-pyridinylmethyl)-N-(5,6,7,8-tetrahydro-8-quinolinyl)-1,4-benzenedimethanamine;
- (ww) AMD7145, N-[(4-phenoxyphenyl)methyl]-N'-(2-pyridinylmethyl)-N-(6,7,8,9-tetrahydro-5H-cyclohepta[b]pyridin-9-yl)-1,4-benzenedimethanamine:
- (xx) AMD7147, N-[(1-methyl-2-carboxamido)ethyl]-N,N'-bis(2-pyridinylmethyl)-1,3-benzenedimethanamine;
- (yy) AMD7151, N-[(4-benzyloxyphenyl)methyl]-N'-(2-pyridinylmethyl)-N-(6,7,8,9-tetrahydro-5H-cyclohepta[b]pyridin-9-yl)-1,4-benzenedimethanamine; and
- (zz) AMD7155, N-[(thiophene-2-yl)methyl]-N'-(2-pyridinylmethyl)-N-(6,7,8,9-tetrahydro-5H-cyclohepta[b]pyridin-9-yl)-1,4-benzenedimethanamine.

99-101. (canceled)

102. (previously presented): A pharmaceutical composition comprising a therapeutically effective amount of the compound of claim 1 in admixture with at least one pharmaceutically acceptable excipient.

103-118. (canceled)

Docket No.: 391442003700

119. (currently amended): A compound of the formula

$$X$$
 Y — W (CR¹R²)_nArCR³R⁴N(R⁵)(CR⁶R⁷)_n,R⁸ (I)

wherein, W is a nitrogen atom and Y is void;

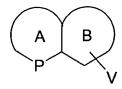
 R^1 to R^7 may be the same or different and are independently hydrogen or straight, branched or cyclic C_{1-6} alkyl;

R⁸ is an optionally substituted heterocyclic group or an optionally substituted aromatic group

Ar is an aromatic or heteroaromatic ring optionally substituted at single or multiple, nonlinking positions with electron-donating or withdrawing groups;

n and n' are independently, 0-2;

X is a group of the formula:



wherein, Ring A is an optionally substituted, saturated or unsaturated 5 or 6-membered ring, and P is an optionally substituted nitrogen atom and wherein any heteroatom in ring A or B is N;

wherein Ring B is an optionally substituted 5 to 7-membered ring;

wherein Ring A or Ring B is bound to group W from any position through group V; wherein V is a chemical bond or V is a (CH₂)_n, group (where n''= 1-2), or V is a C=O group; and

wherein Z is selected from the group consisting of: a hydrogen atom; an optionally substituted C_{1-6} alkyl group; an optionally substituted aromatic or heterocyclic group; an optionally substituted amino group; an optionally substituted C_{1-6} alkylamino or C_{3-7} cycloalkylamino group; and an optionally a substituted carbonyl group; or the pharmaceutically acceptable acid addition salts thereof;

including wherein said compound may be in any stereoisomeric form and any or present as a mixture of stereoisomeric forms thereof.

120. (previously presented): The compound of claim 119, wherein Ring A is selected from the group consisting of: pyridine; pyrimidine; pyrazine; pyridazine; triazine; piperidine; piperazine; imidazole; pyrazole; and triazole and the optionally substituted forms thereof.

- 121. (previously presented): The compound of claim 119, wherein Ring B is selected from the group consisting of: benzene and a 5 to 7-membered cycloalkyl ring; and the optionally substituted forms thereof.
- 122. (previously presented): The compound of claim 119, wherein Ring B is selected from the group consisting of: cyclopentyl; cyclohexyl; cycloheptyl; cycloheptyl; cyclohexenyl; and cycloheptenyl and the optionally substituted forms thereof.
- 123. (previously presented): The compound of claim 119, wherein Ring A and Ring B together are optionally substituted dihydroquinoline or tetrahydroquinoline.
- 124. (previously presented): The compound of claim 119, wherein Ring A and Ring B are independently optionally substituted with a substituent selected from the group consisting of: halogen; nitro; cyano; carboxylic acid; an optionally substituted alkyl, alkenyl or cycloalkyl group; an optionally substituted hydroxyl group; an optionally substituted thiol group; an optionally substituted amino or acyl group; an optionally substituted carboxylate, carboxamide or sulfonamide group; and an optionally substituted aromatic or heterocyclic group.
- 125. (previously presented): The compound of claim 119 wherein said optional substituent in Ring A or Ring B is independently an optionally substituted aralkyl or heterocycloalkyl, wherein said heterocycloalkyl is a 5 or 6 membered ring containing 1-4 heteroatoms.
- 126. (previously presented): The compound of claim 125, wherein said optionally substituted aralkyl or heterocycloalkyl is selected from the group consisting of: phenylC₁₋₄alkyl; phenylmethyl (benzyl); phenethyl; pyridinylmethyl; and pyridinylethyl.

127. (previously presented): The compound of claim 119, wherein Z is an optionally substituted C_{1-6} alkyl group, wherein said C_{1-6} alkyl group is substituted with one or more substituents selected from the group consisting of: halogen; nitro; cyano; carboxylic acid; an optionally substituted alkyl, alkenyl or cycloalkyl group; an optionally substituted hydroxyl group; an optionally substituted thiol group; an optionally substituted amino or acyl group; an optionally substituted carboxylate, carboxamide or sulfonamide group; and an optionally substituted aromatic or heterocyclic group.

- 128. (previously presented): The compound of claim 119, wherein Z is an optionally substituted aromatic or heterocyclic group or a C_{1-6} alkyl group optionally substituted with an optionally substituted aromatic or heterocyclic group.
- 129. (previously presented): The compound of claim 128, wherein said optionally substituted aromatic group is substituted with a substituent selected from the group consisting of: benzene; naphthalene; dihydronaphthalene; and tetrahydronaphthalene; and wherein said optionally substituted heterocyclic group is a 5 to 6-membered saturated, partially saturated, or aromatic heterocyclic ring containing 1 to 4 heteroatoms selected from nitrogen, oxygen and sulfur.
- 130. (previously presented): The compound of claim 129, wherein said heterocyclic group is selected from the group consisting of: pyridine, quinoline, isoquinoline, imidazole, benzimidazole, azabenzimidazole, benzotriazole, furan, benzofuran, thiazole, benzothiazole, oxazole, benzoxazole, pyrrole, indole, indoline, indazole, pyrrolidine, pyrrolidone, pyrroline, piperidine, piperazine, tetrahydroquinoline, tetrahydroisoquinoline, pyrazole, thiophene, isoxazole, isothiazole, triazole, tetrazole, oxadiazole, thiadiazole, morpholine, thiamorpholine, pyrazolidine, imidazolidine, imidazoline, tetrahydropyran, dihydropyran, benzopyran, dioxane, dithiane, tetrahydrofuran, tetrahydrothiophene, dihydrofuran, and dihydrothiophene.
- 131. (previously presented): The compound of claim 130, wherein said heterocyclic group contains nitrogen or sulfur heteroatoms; and wherein said nitrogen or sulfur heteroatoms are optionally in the form of oxides.

Application No.: 09/535,314 Docket No.: 391442003700

132. (previously presented): A pharmaceutical composition comprising a therapeutically effective amount of the compound of claim 119 in admixture with at least one pharmaceutically acceptable excipient.

- 133. (previously presented): The compound of claim 1, wherein Z is a C_{1-6} alkyl group substituted with an optionally substituted aromatic or heterocyclic group.
- 134. (previously presented): The compound of claim 119, wherein Z is a C_{1-6} alkyl group substituted with an optionally substituted aromatic or heterocyclic group.